

MOBILITY AND ROAD SAFETY; Dutch road safety policy 2001-2020

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Introduction

People need to be able to travel for their work, social contacts and recreation, and to make use of facilities and health care. Goods need to be conveyed to companies, shops and consumers. Mobility is an important element in the socio-cultural development of people and society. An efficient, safe and sustainable transport system is an essential precondition for prosperity and well-being. Mobility must be possible for all groups within society, yet under the limiting condition of assured road safety and an acceptable environment. An efficient, safe and sustainable transport system, offering high quality to the individual users, is an important basic principle.

With the National Transport Plan *NVVP* 2001-2020, the Dutch government gives a new impetus to strengthen the existing policy on road safety, and the implementation thereof.

Present state of affairs in road safety

Since 1945, over 100,000 people have died in road accidents in The Netherlands, and over 1.5 million have been seriously injured. Worldwide more people die in road accidents than as a result of either AIDS or wars.

It must surely now be clear to everyone that road accidents are a serious public health problem. This is substantiated by the following Dutch figures.

- One in three deaths in the age group 5 to 25 is caused by a road accident.
- The number of life-years lost due to road accidents lies between that due to cardiovascular diseases and that due to cancer.
- One in ten road accident victims still shows psycho-traumatic symptoms of greater or lesser severity a long time after the accident.
- Over 50% of rehabilitated invalids are road accident victims.

Transport systems other than the roads are many times safer. A few facts, by way of illustration.

- Passenger transport by rail or air is 100 to 200 times safer, per kilometre travelled, than private transport by road.
- The safety standards applied for work environments and technological/energy installations, and for protective measures against natural disasters are based on death risks per time unit which are many times lower, in some cases even a thousand times lower, than the actual death risk in road traffic.

A much greater number of casualties is still regarded as "normal" in road traffic compared with other transport sectors. It is becoming increasingly difficult to explain to the general public and to politicians why the policy in the various government areas is so different, and has such different outcomes.

Advice recently issued by the Dutch Council for Transport therefore makes the following recommendations for improving the standard of road safety.

- Adopt a combined approach for all the fields of activity of the Ministry of Transport relating to road safety. Recognize that there are avoidable road accidents which must no longer be allowed to occur.
- Ensure that safety management is introduced or improved, so that the organizations concerned can themselves evaluate their approach to safety, and organize subsequent improvement steps. All interested parties, such as local residents, pressure groups, media, etc., must be involved with the road safety policy.
- Ensure that the regional role of the Ministry of Transport is more strongly fulfilled; not by executing tasks itself, but rather by offering direction, providing preconditions and carrying out checks. Successful introduction of safety management will allow the national government to fulfil its regional role at a distance.

While it is true that since 1972 safety on Dutch roads has greatly improved, the societal costs of road accidents are still too high. Every year there are over one million road accidents in The Netherlands, causing over 1,000 deaths, around 19,000 hospital admissions, and 105,000 injuries requiring treatment in hospital Accident & Emergency departments. Road accidents entail enormous societal and individual damage, both material and non-material.

Objectives and approach

The government supplies the infrastructure, regulates the market and commissions public transport, and as such has an important influence on the quality of the transport system. Yet the government is not solely responsible for transport, nor the sole owner of the problems. The users themselves (road users and commercial enterprises), through their individual choices, together determine the ultimate outcomes. There is shared responsibility for seeking solutions supported by society. Co-operation between authorities and also with the private sector is needed for issues such as reduction of commuter traffic by car; policy on business siting and car parking; urban distribution; and the area-targeted approach of regional transport plans and municipal plans. The basic principle of co-operation is a clear division of roles and responsibilities.

The Netherlands was the first country to formulate quantitative targets for road safety. In 1987 the first Long-Range Plan for Road Safety *MPV* was published. The target formulated in this for the year 2000 was 25% fewer road accident victims compared with 1985.

The Second Transport Structure Plan *SVV* subsequently narrowed the target for 2010, to 50% fewer road deaths and 40% fewer injuries compared with 1986. In order to realize these ambitious targets, the policy chosen at that time had two lines: firstly, the approach to the spearheads of alcohol, speed and protective devices in cars; and secondly, the more preventive approach of 'sustainable safety' road infrastructure.

The current National Transport Plan *NVVP* of 2001 maintains these objectives. This is ambitious, because mobility has increased more than was expected ten years ago. Retaining the absolute target thus represents a higher ambition in practice, especially because the law of diminishing returns is in operation, so more complex and more expensive measures will have to be taken.

The present targets for 2010, with 1998 as the base year, are:

- fewer road deaths, decreasing to 750 per year;
- fewer hospital admissions due to road accidents, decreasing to 14,000 per year;
- fewer road deaths on railway crossings, decreasing to 25 per year.

In comparison with the new reference year 1998, these targets for 2010 mean that the number of road deaths must be reduced by over 300, and the number of hospital admissions by 4,600.

These national targets will also be translated into regional targets.

In addition to these targets, there are also societal costs attached to road accidents. These costs are estimated at 7 billion US \$ per year (loss of production, medical costs, material costs), or 13,5 million US \$ per day.

The SWOV Institute for Road Safety Research has calculated the cost-effectiveness for many of the measures proposed as an approach in the National Transport Plan *NVVP*. The results of these calculations provided grounds for announcing the expectation that there is a good chance of the 2010 target for road deaths being attained, provided that the increase in mobility remains moderate. The target for hospital admissions will be more difficult to attain.

The principle of ALARA (As Low As Reasonably Achievable) measures will also be increasingly used in the future to keep the number of road accidents as low as is reasonably and practically achievable. That is to say, the effectiveness of measures will be weighed against the investments. Preference will be given to measures which are simple or inexpensive to implement, and produce yields in increasing safety.

Reduction in the number of road accidents also produces economic yields. It has been calculated that realization of the above policy will result in a reduction of societal costs amounting to 1,2 billion US \$ per year in 2010 and the years thereafter. In fact, there are no imaginable good reasons for not investing in road safety!

In order to realize the ambitions in the area of road safety, an integrated safety approach to person-vehicle-road has been chosen. This results in a selection of measures which give the most effect at a reasonable cost. A so-called 'risk approach' (numbers of victims in relation to mobility) makes it possible to determine where there is a hazardous situation, where the hazard is greatest, where and in what combination measures should be taken. Targets for this are currently being formulated for each region; these will be discussed with all the regional partners concerned, and in 2002 will be definitively adopted in joint administrative discussions. This will make it possible to set priorities.

Here too, the applicable maxim is that 'we may have mobility, but must have road safety'! A requirement, however, is that sufficient support among road users must be created.

Sustainable safety transport system

The 'sustainable safety' approach to the transport system is catching on in The Netherlands, and is being further intensified. Considerable experience has been gained since its introduction just less than ten years ago.

A 'sustainable safety' transport system comprises the co-ordination and interactions among road users, the road infrastructure and the vehicle in interrelation with one another; there is also an organizational co-operation agreement. The concept is based on the principle that man is the measure of things. A sustainable safety traffic system has a road infrastructure adapted to the capacities and limitations of the road user; has vehicles which simplify the driving task, and are constructed in such a way that they effectively protect the vulnerable road users; and serves road users who are adequately trained, and if necessary are subjected to checks.

This system approach was first initiated by SWOV Institute for Road Safety Research in 1992 in the document: Towards Sustainable Safety of Road Traffic (*Naar een Duurzaam Veilig Wegverkeer*). The basis for a sustainable safety transport system lies in a systematic and consistent elaboration of three safety principles:

- functional use of the road network by preventing unintended use;
- homogeneous use of the road network by preventing large differences in vehicle speeds, vehicle masses, and direction of travel;
- predictable use of the road network by rectifying uncertainties in road behaviour and introducing predictability into the way in which the road proceeds.

The three safety principles are translated into specifications for roads, which are distinguished into a few different types of roads according to function:

- flow function: through roads with high intensities and high speeds;
- district distribution function: roads dividing and combining traffic from and to residential neighbourhoods and from and to through roads;
- access function: roads giving access to residential areas, industry parks, shopping areas, sports centres.

These basic principles result in two categories of roads within the built-up area (distributor roads and access roads), and to three categories of roads outside the built-up area (freeways, rural distributors and rural access roads).

Within the scope of an integrated approach in the intensified policy of the National Transport Plan *NVVP*, possibilities are being sought to *strengthen* the policy (in addition to the focus on road infrastructure) with policy aimed at influencing road behaviour and at vehicles. This is necessary because infrastructural adaptations can only remove some of the causes of road accidents. In the future policy, the behaviour of road users will be given a more central place than hitherto. The aim is a more co-ordinated application of measures for road behaviour, the vehicle and the road infrastructure, and the organization of the totality of these. This can contribute to maximum safety yields being attained with the available resources.

The programme for a safe road infrastructure, introduced several years ago, is being continued more strongly. In consultation, all the administrative partners are preparing the administrative agreements for the coming period. Their integrated approach covers measures aimed at the road user, the vehicle and the road, and also the possibilities in the area of business operations and spatial planning. An elaboration of especially the infrastructural measures for the road is given in the Working Document 'Sustainable Safety', Phase 2; final report.

Co-operation on road safety

The degree of co-operation and division of responsibilities among all the parties involved in the transport policy is an important factor in producing results. In its safety policy, the government places the responsibility with those who cause road accidents, or who have the keys to improving road safety.

Some parts of the road safety policy are divided among several ministries. These include areas such as enforcement of traffic regulations by the police; statutory fines for violations and penalties for criminal offences; driving under the influence of alcohol, drugs and medications; aspects of spatial planning such as policy on siting businesses and regional, local and urban development plans, etc. The Ministry of Transport has a co-ordinating role in this; the responsibility for and approach to road accidents is shared with the departments of the Ministry of Justice, the Ministry of Housing, Spatial Planning and Environment, the Ministry of Health, Welfare and Sports, and the Ministry of Internal Affairs and Kingdom Relations.

The Netherlands is a country which encourages parties to co-operate by means of consultations and persuasion, and then to make binding agreements on the issues. This method of operation is known as the 'polder model'. In the context of road safety, the following administrative agreements can be reported.

- Decentralization Agreement, 1994

This is an agreement between the InterProvincial Consultations *IPO*, the Association of Netherlands Municipalities *VNG*, the Union of Water Control Authorities, and the Minister of Transport. This agreement lays down that each region will have an independent consultation platform in the shape of a Regional Road Safety Agency *ROV*. The purpose of an *ROV* is to establish a systematic approach to road safety on the basis of mutual co-ordination with institutions and organizations within the region concerned.

- *VERDI* Covenant, 1996

VERDI (in Dutch) stands for Transport, Regional, Decentralized and Integrated. This covenant has the same signatories as the Decentralization Agreement (*IPO*, *VNG*, the Union of Water Control Authorities, and the Minister of Transport). It relates to the main outlines for the future planning structure, infrastructure, public transport, personnel issues and facilitation. The National Transport Plan *NVVP* is part of this covenant.

- Sustainable Safety Starting Programme Covenant, 1997

In addition to a policy on certain aspects, and of a repressive and curative character, an integrated policy with a clearly preventive character is chosen in this covenant. It was also signed by the partners listed above, and its purpose is to lay down which activities will be chosen first to improve road safety.

The basic principal of the integrated safety approach is that it focuses on all factors which have an influence on safety, both primary and environmental factors.

Firstly, this policy entails that the government brings the direct influence on the person-vehicle-infrastructure system into balance, and strengthens the interrelations among these three. To do this, it uses, among other things, the traditional means such as education, driving test requirements, standards for vehicles, enforcement, construction and management of infrastructure, traffic management and rules of behaviour.

Secondly, the government intervenes increasingly at the level of price policy, the organizational connections within which the road user resides, works and lives (schools, neighbourhoods, businesses), mobility, and the possibilities in the area of spatial planning.

In dividing responsibilities and resources among the various administrative strata, the applicable maxim is: decentralized where possible, centralized where necessary. Financial resources are decentralized, and the regional authorities pay the costs associated with the responsibilities that they bear. This means that these costs are paid by the management authority of the infrastructure concerned, and possibly by other interested parties. The basic principle is that all parties together make optimal efforts to increase road safety. For this purpose, a combination of measures is used, focusing on road behaviour, technology and infrastructure.

A sustainable safety transport system with a very low number of road accidents stands or falls depending on the support among citizens, politicians and the technological world. The importance of introducing a road safety approach must be clear to everyone.

Influencing behaviour

The most important key for the approach to road safety is the behaviour of road users. The vast majority of road accidents are ultimately attributed to the consequences of human error; even if only because legally a guilty party must be found from whom to obtain redress for the consequences of the accident.

Drivers are bombarded with a constant stream of information, both visual (the road, other vehicles, pedestrians, road signs, intersections, etc.) and auditive (listening to the radio, mobile phone calls, conversations with passengers, etc.). A driver processes all this information to a greater or lesser extent.

However, prior to this, it is also possible that a driver may not have seen a situation. This could be because the light or visibility was poor, or because by chance the driver was looking the other way. Research has shown that observation errors play a part in one-third of road accidents. The fact is that we are human, and we do not observe well.

However that may be, the Dutch Council for Transport has made the point that the proportion of professional road users is low: most people who drive vehicles are amateur drivers. In this uncontrolled situation, there are no structural safety guarantees as there are in the case of railways, maritime shipping and aviation. Selection, professional driving instruction, tests and retraining courses, stringent regulations, etc. quite simply do not exist in road traffic. It is, in fact, amazing that there are not more road accidents.

While it is true that well laid-out roads can reduce the risk of road accidents, the road users themselves are ultimately at the wheel. Through promotion of safe road behaviour by means of education and public information, road users become better able to take their responsibility. Knowledge about the relation between road infrastructure, road behaviour, road accidents and the consequent injuries must therefore be increased.

An important principle is that all road users must possess the required knowledge, skills and motivation to behave safely in traffic. Specific target groups, such as children, young people and the elderly, merit greater attention. The government therefore aims to introduce a beginners' driving licence for newly qualified drivers, and a practical driving test for mopeds and motorbicycles. According to the SWOV calculations, both measures are highly cost-effective.

Road users are regularly confronted with aggressive driving behaviour. This results in accidents, annoyance and tailbacks. The government is therefore continuing to run campaigns for this theme, in combination with public information and enforcement.

Driving under the influence of alcohol remains a serious problem. Alcohol is a contributing factor in 24% of road accidents causing death and 10% of accidents causing serious injuries. Since alcohol has a strong effect on the driving behaviour of inexperienced drivers, new legislation is being prepared in which the permitted blood alcohol level for newly qualified car drivers and motorcycle riders is reduced from 0.5 mg/ml to 0.2 mg/ml. A further investigation is being conducted into whether this reduction can be implemented for all drivers.

Surveys have shown that driving under the influence of drugs and medications is no longer a marginal phenomenon. These substances have an effect on the central nervous system which jeopardizes the road safety of anyone driving under their influence. Research must be conducted to determine the best ways to approach this problem.

On the repressive side of the approach, the regular enforcement of traffic regulations is being intensified. To strengthen this enforcement, the government is to issue a decree on the introduction of administrative enforcement of traffic regulations. This decree indicates the space given to the provincial and municipal authorities to supervise the enforcement of traffic regulations themselves.

Public information and communication are essential in order to inform road users about the relation between their behaviour and road safety. National public information campaigns remain a fixed part of the policy. The effectiveness of national and regional campaigns is being increased by their inclusion as an integral part of regional projects and administrative agreements on road safety.

Road infrastructure

In an integrated approach to road safety, improvement of the road infrastructure cannot be an isolated activity. One of the points of attention in the agreements about further work on a better infrastructure is the more detailed elaboration of the categorization of the road network. The primary responsibility for a safe lay-out of the infrastructure lies with the highways authority. Within this framework, guidelines for a sustainable safety lay-out are being developed. Highways authorities will be given the space to apply the guidelines for infrastructure in a modified way, but reasons must be given for any modifications.

The most serious problems for road safety are found on the urban arterial roads and on the regional through roads. The biggest challenge therefore lies with the municipalities and provinces. Realization of a sustainable safety infrastructure usually has to be 'made-to-measure'. Consequently, the authorities within a region must together develop integrated packages of measures on the basis of regional targets. To support the regions, a first catalogue of measures has been formulated, outlining the effects of various measures on road safety.

Spatial planning can also make an important contribution to road safety, if planners and designers take account of road safety in the urban development design or landscape design. Road safety thus becomes more firmly embedded within the spatial plan development, and it becomes possible to lay out new infrastructure and its surroundings in line with sustainable safety.

Vehicles and technology

Local authorities are encouraging the use of the bicycle. Good, safe facilities for cyclists are important for this. Municipalities and provinces are realizing and managing a network of safe routes and parking facilities for cyclists. In the construction and management of infrastructure, the government is co-responsible for maintaining and improving intersecting route networks for cycle traffic. All authorities together are responsible for promoting bicycle use and knowledge transfer.

Mopeds remain a hazardous form of road use. Without vehicle registration, a driving test and a separate road infrastructure for moped riders, it will be difficult to improve the road safety of this category. One in five road accident victims is a moped rider.

The authorities are promoting the development, standardisation and implementation of technology to improve road safety. New technology for motor vehicles can greatly improve road safety. The priorities in applying new technologies lie in the following themes.

Of top priority in the policy are the projects which reduce the risk of injury among vulnerable road users, such as pedestrians and cyclists, and reduce serious injury of vehicle occupants. Attention is focused on, among other things, the prevention of whiplash.

Intelligent speed adaptation (ISA) in and outside of the vehicle is an example of technological innovation for greater safety. The speed of a car can be regulated externally, which offers opportunities to greatly improve road safety. In busy traffic or bad weather, the speed of a stream of traffic can be adapted to the circumstances, without major enforcement problems.

Intelligent speed adaptation is one of the options for making cars drive more slowly in residential neighbourhoods. A trial is currently being conducted in the city of Tilburg. European cooperation in this field is underway.

The design of trucks could also be safer. Examples here are speed governors, better side mirrors to minimize the blind spot, anti-overturning systems for trucks, and side protection panels on trucks to reduce underrun bicycle accidents.

The risk of injury decreases as vehicle designs become more reciprocally attuned. The improvement of this so-called 'collision compatibility' is being stimulated. For the long term, there are prospects for the application of collision prevention techniques.

An important point of attention in technological innovation is its psychological aspect. In order to get new technologies accepted, it is not enough only to emphasize the advantages for society; the advantages for the individual road user must also be pointed out. On the other hand, new technologies must not result in the driver being swamped with information, thus increasing the risk of manoeuvring errors.

Technology can *support* road users in their driving task. The industry is currently making major investments so that in a few years devices for location specification, communication and identification will be standard equipment of new cars. This will mean that an increasing proportion of the vehicles on the road will be equipped for services which support road users, such as traffic information, navigation, parking information, SOS buttons, and methods for tracking down stolen vehicles. In the area of system innovation, information and communication technology (ICT) in combination with location specification technology offers opportunities for new logistics concepts in both passenger and freight transport.

Technology can also be used to *influence* driving behaviour, and is therefore an essential part of the road safety policy. Systems are being developed which support and simplify driving, such as various forms of Automatic Vehicle Guidance (AVG).

Stimulation from the national government

As further elaboration of the transport policy, the government has naturally also formulated a programme with an agenda, actions and research.

The government's agenda has the following *lines of approach or agenda*.

- In the coming years the government will make agreements with municipalities and provinces about the approach and further elaboration of a sustainable safety transport system. To this end, the government together with the other authorities is developing methods to translate the national road safety objectives into regional objectives.
- Together with the decentralized authorities, the private sector and societal organizations, the government is developing a package of measures to improve the road safety of vulnerable road users, such as pedestrians, cyclists and moped/motorbicycle riders. This involves tightening requirements for vehicles, registration numbers, requirements of driving fitness and driving skill, measures for the lay-out of and place on the road, and the place of the various groups of road users on the road.
- In co-operation with the Motorcycle Riders' platform, the sector and other organizations, measures are being implemented to improve the road safety of motorcycle riders. This focuses on improving visibility and risk perception, encouraging the wearing of appropriate clothing, and improving vehicle control.
- The government is holding consultations on road safety with, among others, employers' and employees' organizations, insurance companies and other relevant businesses and organizations, to investigate the possibilities of internalizing the societal costs of road accidents. This entails that the person who causes the accident is liable for the costs. Options could be to increase premiums in the event of culpable driving behaviour; to encourage the purchase of safety devices; and to influence driving behaviour by checking driving skills.
- The government wishes to introduce, in conjunction with the private sector, insurance companies, the other authorities and other parties concerned, a quality incentive in the transport sector and commercial traffic leading to guarantees for efforts in the area of safety. Special attention will be given here to vans.
- The government is aiming for further tightening of requirements for driving skills and driving fitness at the European and the national level.
- The government is developing regulations for the use of drugs and medications which influence driving behaviour, and the testing of drivers for their use.
- By means of experiments, the government is giving an impulse to the development of Advanced Driver Assistance (ADA) systems. ADA is an umbrella term for, among other things, various forms of intelligent speed adaptation and lane departure warning systems. Large-scale tests will be carried out as from 2003.
- The government is setting up a calendar for the development of Automatic Vehicle Guidance (AVG) for the coming years. This is being done in co-operation with the private sector, in particular with the objective of improving road safety and road utilization. The intention is to fit in with international developments and to realize the necessary legal frameworks.

The government has further resolved to prepare and execute the following *actions*.

- The government will determine the most hazardous sections and black spots in the national trunk road network and improve them.
- The government will start a trial with a speed governor in light trucks and vans. This will be done in co-operation with the private sector. After the trial, and taking account of the results, the government will commence efforts for amendment of the law in the European context.
- A cabinet standpoint is being prepared on administrative enforcement of traffic regulations. This entails that municipalities and provinces will themselves be able to decide on their approach to the enforcement of road safety. They may use the revenue from the administrative penalties themselves, for their own purposes.
- The government aims to extend the five pilot studies with intensive police supervision of regional enforcement of traffic regulations to all 25 police regions in The Netherlands.
- The government will intensify the enforcement of speed limits on the motorway network, through extra deployment of the national police force.
- The government aims to introduce a beginners' driving licence for newly qualified drivers.
- Depending on the results of further research, a blood alcohol limit of 0.2 mg/ml for either newly qualified drivers or all drivers could be introduced in 2002.
- The government will give an impulse to the introduction of Intelligent Speed Adaptation (ISA). After the first, successful trial in a residential neighbourhood in Tilburg, large-scale trials are planned.
- The government is developing a strategy for the introduction of electronic vehicle identification and electronic registration numbers. In the first instance, this will relate to combating registration number fraud. Later, it will be possible to add, for instance, enforcement of the traditional vehicle requirements.
- The government will give an impulse to the development and application of the on-board computer and the driving behaviour data recorder (black box). The accent lies on the commercial market, especially freight transport, with the objectives of realizing logistic advantages and contributing to safer driving behaviour. A pilot study is being started.
- The government is developing measures which improve the protection of vehicle occupants, both in individual and collective passenger transport and in freight transport. These involve, among other things, improving the seat and headrest constructions of cars to help prevent whiplash; collision compatibility; and requirements for the roof construction of buses.

Within the scope of the present policy, the government will start the following *research studies*.

- Research into the possibilities of safer road behaviour have high priority: what means and activities can be used to teach new road behaviour, restrict undesirable road behaviour and encourage desirable road behaviour. The background of this is the endeavour to further harmonize measures focusing on the road infrastructure, road behaviour and the vehicle. The desired strengthening of the policy on behaviour makes it necessary to conduct thorough research into the possibilities for innovation of the instrumentarium.
- The government will start a study on the relation between road infrastructure, road behaviour, road accidents and consequent injuries, so that a measures-oriented policy can be pursued. A point of attention is restriction of the number of serious injuries.

- Better embedding of road safety in policy areas outside the direct road safety policy can be very effective. The relation with spatial planning and urban development will be further investigated. One of the possibilities is to introduce a road safety audit for spatial plans.
- An approach focusing on the vulnerable road users is extremely important for road safety. Further research will be conducted concerning numerous effective measures for this category.
- The government will take the initiative to research the influence of alcohol, medications, drugs and unhealthy lifestyle on driving behaviour in the freight transport sector, possibly followed by a package of measures to be formulated in conjunction with the sector for a business-oriented approach (safety culture).

European co-operation

Co-operation on the European scale is essential. National legislation and regulations are increasingly determined by European directives. Co-ordination of policy on the European scale will increase, while the possibilities for subsidies to sectors are becoming ever smaller. The following topics have priority in the Dutch contribution to policy-making in the European Union.

- The Netherlands will intensify the efforts in the various European bodies to speed up European harmonization of vehicle requirements and rules of behaviour. These relate to, among other things, improvement of the field of vision in new and existing trucks, vans and buses, performance requirements for stability (anti-overturning), and the introduction of a European dynamic overturning test for new trucks.
- The government will stimulate further improvement of the collision safety of new cars by means of contributions to EU research and policy-making, and by influencing car purchasing behaviour (EURO-NCAP).
- Electronic vehicle identification.

European co-operation also involves attention for a number of Eastern European countries which in time will become members of the European Union. Road safety in Eastern Europe is many times worse than in Western Europe. A Memorandum of Understanding (MOU) has been concluded with several of these countries, which entails setting up special joint ventures between The Netherlands and the countries concerned. These can relate to, for instance, the exchange of information and the provision of training courses for traffic experts in those countries.

There is also a joint venture, again an MOU, with the United States, and special co-operation with the Transportation Systems Center Volpe, the American government's research institute.

Effects of the Dutch policy

The Netherlands is already one of the safest countries; yet this is no reason for satisfaction. The number of road accidents must be further reduced, and so too must their costs to society.

Provided that the present policy is continued and intensified, the ambitious targets can be approached or even attained. It may be expected that these revised policy resolutions will result in greater road safety and less nuisance in road traffic.

The government tolerates mobility for everyone, although under the condition of an acceptable degree of road safety. It will approach matters at the national level where necessary, but will further stimulate a regional approach to matters for which this is possible.

A Dutch maxim is: the polluter pays. This principle will also be increasingly applied to traffic.

Drivers will bear the consequences of road use: maintenance and management, damage to the environment, and the costs of road accidents are going to be expressed as a price per kilometre. In a few years' time, road users will pay for their use of the road infrastructure, as a price for each kilometre they drive; and in exchange, the present fixed-rate road taxes will be reduced.

The Netherlands is choosing quality: quality of human life and quality of the environment. We may have mobility, but must have road safety !

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